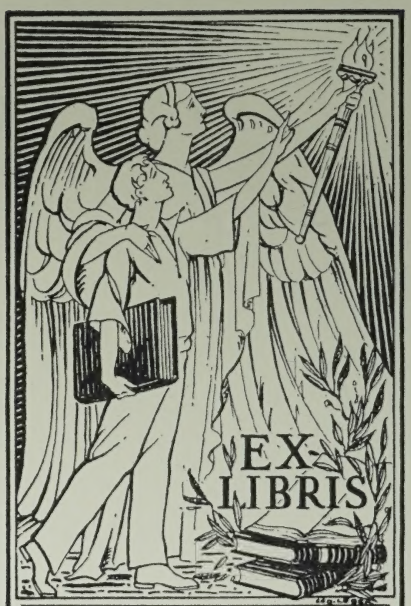
The Activities of Federal-State and Private Agencies Concerned with Work for the Blind and Preventing Blindness



"The Activities of Federal-State and Private Agencies Concerned With Work for the Blind and Preventing Blindness"

For the Use of State Agencies Administering or
Supervising the Administration of
Aid to the Blind Under the
Social Security Act

Bureau Circular No. 5

Bureau of Public Assistance
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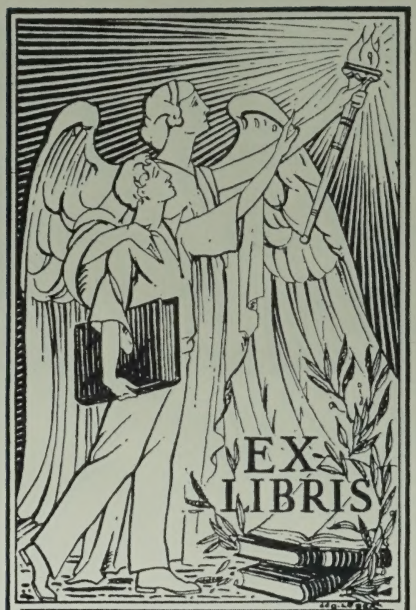

"The Activities of Federal-State and Private Agencies Concerned With Work for the Blind and Preventing Blindness"

This circular is a reprint of an unnumbered undated publication of the same title, originally issued in September 1937. The material is being reissued without change. The circular was prepared by Dr. Carl E. Rice, Surgeon, U. S. Public Health Service, consultant on blindness to the Social Security Board.

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THE ACTIVITIES OF FEDERAL-STATE AND PRIVATE AGENCIES CONCERNED WITH WORK FOR THE BLIND AND PREVENTING BLINDNESS

This statement is not intended as an exhaustive treatment of the subject and will emphasize mainly the present and hoped for medical functions of certain agencies, especially as pertains to prevention of blindness. The important part played by private agencies in this work is also touched upon.

Private National Agencies

Two national private agencies interested in the work with the blind and the prevention of blindness are the American Foundation for the Blind[1a] and the National Society for the Prevention of Blindness.[1b] The first is largely concerned with the individuals who have become blind, and in the educational, vocational, and social adjustment of such individuals; the latter is interested in preventing blindness. Both of these private agencies are prepared to give valuable service in educational and advisory lines and publication lists of reprints available are furnished on request.

There are two other national organizations interested in work with the blind, which are of great importance to those who have become blind, whether child or adult. These are, The American Association of Workers for the Blind[1c] and The American Association of Instructors of the Blind.[1d] Their names indicate their special field of interest.

There are two other private agencies that are concerned with prevention of that portion of blindness arising from accidents, industrial and otherwise. These two agencies are, the American Standards Association,[2] and the National Safety Council.[3] Both of these agencies have extensive publication lists.

Department of Labor

Of the official Federal agencies there are in the Department of Labor, the following sub-divisions that are interested in different ways in the problems under discussion, the Children's Bureau, the Bureau of Labor Statistics and the Bureau of Labor Standards. The U. S. Employment Service and the National Reemployment Service also encourage the idea of special workers on the staffs of State and local employment agencies for the placement of the handicapped including the blind.

The States through aid from the *Children's Bureau*[4] are conducting a most constructive, indirect, prevention of blindness program. This is made possible because of funds appropriated under *Title 5, Part I* of the Social Security Act and concerns infant and maternal welfare. The Children's Bureau applies this Act through the cooperating health departments of the respective States. Each State health officer submits a plan of action for his State to the Bureau. These plans differ in each State and for details of application in any particular State, the State health officer should be consulted.

In some States, efforts are made to improve the training of midwives, in other States, post graduate training in obstetrics and pediatrics is brought within reach of the general medical practitioner. Educational efforts directed towards expectant mothers, will attempt to teach these prospective mothers what good prenatal and obstetrical care is and induce them to demand same. All such efforts will lead to the securing of blood Wassermanns on more pregnant women, the specific treatment of those with positive Wassermanns and the proper care of the eyes of more newborn infants. These measures will result in fewer infants and children becoming blind from ophthalmia neonatorum[4a] and syphilis.[4b]

The Children's Bureau is responsible for the administration of another section of the Social Security Act. *Title 5. Part II.* which has to do with the physical rehabilitation of crippled children. This section has potential value as regards the physical rehabilitation of blind or near blind children under 21 years of age who can have vision saved or restored by medical or surgical procedure. This section of the Act relating to crippled children is administered through various State agencies. In August, 1937, the responsible agency in 24 States was the health department. In some States, the Welfare Board is responsible and in some the Department of Education. So far, the Act is being applied in nearly all States to orthopedic cripples. It is hoped that in the not too distant future the States will broaden their definitions of what constitutes a crippled child so that blind or potentially blind children may receive benefits under this Act, the blind child where operative interference might restore sight and the potentially blind child where treatment or surgery might prevent blindness.

So this Act has potentialities for benefiting the child handicapped by some disease or condition that is threatening sight or has already produced blindness.

Information about the plans for application of this Act to any certain State can be sought through the Director of the Children's Bureau who will gladly give information concerning the agency in the State responsible for the administration of the law.

The Bureau of Labor Statistics, as its name implies, is interested in compiling statistical information about many things, some of which deal with health in industry. It has to its credit may publications[5] dealing with hazards in industry that produce blindness through toxic effects on the optic nerve and otherwise.

The Bureau of Labor Standards[5a] works through State Industrial Commissions, Labor Commissioners, State Mining Bureaus, etc. It is interested in helping to give proper leadership to the efforts of these State agencies in establishing proper working conditions for those laboring in industry, mining, etc. As an example of what it undertakes, there are held in different parts of the country schools of instruction for factory inspectors. It participates actively in the annual meeting of the National Association of State Labor Commissioners. Some of these efforts are indirectly concerned with the prevention of industrial accidents that may cause blindness.

Department of the Treasury

The Bureau of the *U. S. Public Health Service*[6] is another Federal agency which works partly through State health departments, partly through direct research of its own devising and partly through its own services.

The work through State health departments is largely concerned with the administration of *Title 6* of the Social Security Act. Many of these efforts are intimately concerned with measures that prevent blindness, directly or indirectly. To be specific, State health departments are aided in establishing or expanding divisions interested in preventing venereal diseases. Aid is provided for establishing clinics where venereal diseases may be treated.

Since gonorrhea causes considerable blindness in infants and some in young adults and since syphilis causes much blindness in youth[7 a b c d e] and middle age, any measures which will reduce the incidence of these two diseases can be considered as efforts directly toward preventing blindness.

As the reporting of venereal diseases is an important aid in its eradication, ways and means must be devised for inducing physicians to report their cases. With money through the Social Security Act filtering down to his department through the U. S. Public Health Service, one ingenious State health officer devised the scheme of sending to each physician so may ampules of neo-salvarsan for each case of syphilis reported.

In some States, the Health Departments have been enabled to subsidize the private physician in his treatment of indigent individuals who have syphilis. In order to receive this subsidy, the physician must report his case and treat it and for each treatment he receives a fee from the State Health Department. Money so distributed has its origin in the Social Security Act.

The U. S. Public Health Service is able with money provided under *Title 6* of the Social Security Act, to aid State Health Departments in increasing the strength and efficiency of the central health organization, to aid in establishing district and county health units which can apply the many new improvements in public health technic directly to the population within their borders, to aid in increasing the services provided by the public health laboratories of State health departments so that more of these laboratories can distribute free to physicians and midwives, silver nitrate for use in the eyes of the newborn as well as providing facilities for doing Wassermann tests on blood samples submitted by physicians of the State. Much of this aid in strengthening State and local health departments is given through funds used for granting scholarships to health officers, public health nurses, sanitary inspectors and sanitary engineers. Not only are such scholarships provided for those who are already engaged in public health work but to those who desire to enter such field of endeavor. The financial aid provided usually covers the cost of tuition and modest living costs.

In two States, Missouri and Kentucky, the Public Health Service is helping the health departments maintain rather intensive programs directed toward the eradication of trachoma,[7f] a disease which has produced much blindness in the native whites of these and nearby States.

Through increased research facilities of the Public Health Service, the National Institute of Health is able to more carefully and efficiently control the private manufacture of arsenical products which are so widely used in treating syphilis. Its research in the field of toxic products in industry which can produce blindness is more efficiently maintained.

In the direct services of the Public Health Service relating directly or indirectly to the prevention of blindness, there stands out the very meritorious Venereal Disease Clinic and Research Center at Hot Springs, Arkansas. This is also used as a post graduate center for training physicians in the most efficient methods of treating venereal diseases.

Dept. of Interior

In the Department of the Interior are found two Bureaus especially interested in blindness and blind people. The *Bureau of Indian Affairs*[8] has many thousands of wards west of the Mississippi who are subject to trachoma which produces much blindness among them. The Bureau has been trying for many years to stamp out the disease through efforts directed towards the Indian children in school. Now the effort is to be made not only to reach the Indian child with trachoma but also the adult.

The *Office of Education*[9] in the Department of the Interior is interested in the vocational rehabilitation of the blind adult. It serves such persons through State Commissions for the Blind or other State agencies having a responsibility for work for the blind or through the State boards of vocational education which have the responsibility of rehabilitating the physically handicapped.

The American Foundation for the Blind has been interested for a long time in the subject of vocational rehabilitation[9a] of the blind. It is the opinion of workers in this organization that the main difficulty in placing blind individuals in industry today is the lack of adequate machinery for placing the capable blind person in contact with the available job. The type of jobs which such people can fill are fairly well known, the blind person and his mental and physical capacity may be known but getting such blind individual in contact with the definite job opening and breaking down employer-resistance is where the failure occurs. Much of this difficulty can probably be overcome through efforts of specialized workers in Federal and State employment services as well as more follow-up and supervision by agencies interested in vocational rehabilitation.

One would expect to find the *Bureau of Mines* in the Department of Interior interested in the subject of blindness since miners nystagmus, a severe form of visual handicap, is so prevalent as an occupational disease among miners of many countries. However, officials of the Bureau of Mines as well as those in the Bureau of Labor Standards have assured themselves

that this disease among miners is practically nonexistent, so far, in the United States. The Bureau of Mines maintains a rather complete card index on published articles dealing with health of miners. Among the subjects covered are references to foreign journals in which appear papers dealing with miner's nystagmus.

Dept. of Commerce

The Bureau of the Census has attempted to cover the subject of prevalence of blindness in the population in its past periodic investigations. It is not satisfied with what it has been able to report, largely because it is impossible to infuse in the minds of its many thousands of temporary employees a true and uniform idea as to what constitutes blindness.

As a result of the realization of this inadequacy by those in the Census Bureau and others interested in statistics of the blind, there was formed in 1930 a Committee on Statistics of the Blind. This Committee has delved into many phases of statistics concerning the blind and is still continuing its efforts.

It is interesting however, in going over the last census report, to find that the State of New Mexico[10] has the highest percentage of blindness in relation to its population. Apparently this is due to blindness in the white population and not to blindness in the Mexican and Indian populations as one might expect. This high rate of blindness for New Mexico is shown not only in the census of 1930 but also in the census of 1920 and in that of 1910. So far, no one has an adequate explanation for this finding. Perhaps the system of medical determination of blindness being fostered by the Social Security Board may give us the answer to this question.

At the present time our knowledge of the *prevalence of blindness* is very inadequate. It is hoped that with the procedure for establishing the fact of blindness in the individual as initiated by the Social Security Board, even though this represents only the needy blind, a truer picture of the number of blind people in this country will be secured. We may even hope in a few years to be getting fairly adequate information concerning *the incidence of blindness*. At the present time, the only figures on incidence are supplied through the two leading national organizations, the National Society for the Prevention of Blindness and the American Foundation for the Blind, in their annual census of new students entering the various State schools for the blind.

There is no reason why the fact of blindness should not be a reportable condition, reportable to some official State agency as soon as blindness is established in an individual. With the impetus that one can expect will be given to blind prevention work under *Title 10* of the Social Security Act, there should exist in every State an official agency to which blindness in an individual young or old, rich or poor, will be reported as it arises, thus giving a true picture of the incidence of blindness which is of more importance than the knowledge of the number of adults receiving blind assistance.

Federal Employees Compensation Commission

The Federal Employees Compensation Commission[11] as its name indicates is interested in the medical care and compensation of Federal employees injured in the line of duty. Many of these injuries are such that some vision is lost, one eye entirely lost, both eyes lost, etc. Federal employees receiving security payments (W.P.A., C.C.C., etc.) are considered as being blind if 80% or more of visual efficiency has been lost in both eyes. For these cases, the method[11a] of measuring the visual efficiency as set up by the American Medical Association in 1925, is utilized.

Library of Congress

The Library of Congress[11b] serves those who are blind by lending books written in Braille, also in lending the talking books. There are many libraries throughout the country that serve as branch distributing points for the Congressional Library in rendering these services.

Interstate Commerce Commission

The Interstate Commerce Commission issues each year a rather voluminous publication entitled "Accident Bulletin" which gives statistical information concerning accidents on steam railways in the United States. Space is given to eye accidents tabulated by rail systems. Unfortunately, no information is given about the end results of these eye accidents.

Social Security Board

Through its Bureau of Public Assistance, the Social Security Board is primarily concerned with assistance to the blind but is likewise interested in the prevention of blindness. The Social Security Board has established a definite procedure for determining blindness. It is hoped by this procedure that a rather high type of medical examination will prevail throughout the States in determining whether individuals who are applicants for blind assistance are really blind. The main reason, of course, behind such a procedure is that knowledge of causes[7 a b c d e] of blindness is the first necessary requirement if programs for the prevention of blindness are to have a scientific basis. Also important is the knowledge as to whether the applicant can have vision restored by medical or surgical procedure.

Important Medical Factors in an Assistance Program for the Blind.

The Social Security Board in PA-701 has set up a *definition of blindness, really economic blindness*, as a guide to the States. It has proposed a visual acuity of 20/200 (Snellen) in the better eye with proper correcting lenses as the upper limit of economic blindness. This has been criticized by some as too liberal. When one considers that the New York State Industrial Commission holds that an eye with 20/100 (Snellen) is a blind eye for purposes of making awards in industrial accidents, then the Board's proposal of 20/200 (Snellen) really leans to the side of conservatism.

Certainly no one would quibble as to whether an individual with a vision just sufficient to distinguish light from darkness is really blind. Such vision is known as *Light Perception*. Between Light Perception and 20/200 (Snellen) there are innumerable grades of vision. Individuals can be found employed in industry[11c] as sighted persons, with visual acuities varying somewhere between Light Perception and 20/200 (Snellen) but they have been many years on the job and commenced it when their vision was normal. *Except for unusual cases*, an individual, with vision of 20/200 (Snellen) which cannot be improved with glasses, cannot get employment as a sighted person, neither can he do work for which eyesight is essential.

The Social Security Board in its definition of blindness has proposed that peripheral fields constricted to a certain amount be also considered as economic blindness. It is not likely that there will be any great number of such cases. Dr. Harvey Lamb, Supervising Ophthalmologist of the Missouri Commission for the Blind in a paper[11d] read in 1922 stated there were perhaps a dozen such cases among 5,000 eligible applicants in Missouri. The State of Missouri at that time was using as its definition of blindness, a visual acuity of 20/450 (Snellen) or less in the better eye which could not be improved with glasses.

Central visual acuity refers to the ability of the eyes to distinguish small differences at varying distances. It might be expressed in another way as the ability of the eyes to distinguish detail at varying distances. In order to make out detail one must turn the eyes straight toward the object of study. This is *central visual acuity*. The word central is used because the central portion of the retina is doing the seeing. Only this central portion of the retina can make out detail. The *peripheral portion* of the retina cannot make out detail but can distinguish differences in color, can pick up movements easily and make out general form or shape. One who has lost central vision can still get around fairly safely but cannot read or do fine work. One who has lost *peripheral vision* may still have excellent central vision over a very small area, like looking through a rifle barrel but such a person cannot drive an automobile and cannot depend on his own vision in walking city streets.

In measuring the degree of central visual acuity, *the Snellen system* is most commonly used. Letters of standard size are placed on charts and the individual being examined is placed 20 feet from the chart. If such individual has normal vision, the central visual acuity is recorded as 20/20 (Snellen). If the person being examined has slightly defective vision and the smallest letters distinguished at 20 feet is one which should be legible at 40 feet to one with normal vision, then the central visual acuity is recorded as 20/40 (Snellen). Many people think of this as a fraction meaning one half of normal vision or 50% normal vision. This is a mistake. The Snellen recording should not be thought of as fractions. In the same way a central visual acuity of 20/200 (Snellen) means that the person is just able to read the large letter at a distance of 20 feet which a person with normal vision can read at 200 feet. The 20/200 (Snellen) is not a fraction meaning 1/10 of normal vision.

In making a medical determination of blindness for the purpose of granting blind assistance under the Social Security Act, the blind individual *must be examined by an ophthalmologist and a proper report made.*

Some States have more ophthalmologists than others. There is no State or territory in this country, not even excepting the Virgin Islands, that does not have the services available of such specialists. It is quite possible that in many States, either the blind persons or the doctors will have to be transported varying distances. Such transportation, usually of the doctors, has been the practice in one State for over a decade.

For several years, one State agency in granting assistance to the blind, has limited the eye examinations of applicants to those physicians who have been certificated by the American Board of Ophthalmology.[15a] Such certification rates the physician as an ophthalmologist who has properly qualified himself to practice this specialty. Eventually all States should require such certification of those who examine and treat applicants for financial assistance to the blind.

It is estimated that 80% of all applicants for blind assistance can be examined satisfactorily in groups without any extensive apparatus, outside of the doctor's office or eye clinic. The remaining 20% will probably have to be examined in eye clinics or physicians' offices where special facilities are available.

The services of one or more medical social workers or public health nurses with some knowledge of eye conditions would be helpful in seeing the blind applicants first, deciding which individuals should be sent to a clinic or doctor's office and which could be examined in groups. In the latter, she could make arrangements for assembling the applicants at some point and getting the attendance of an eye physician.

In the bibliography there are cited five important papers which have been written on *causes of blindness.* It would be well worth the time of any supervising ophthalmologist or administrative official in charge of blindness prevention work or granting of assistance to the needy blind to read these papers.

Some brief comment might be made here on causes of blindness as ascertained from the medical examination of several thousand applicants for blind assistance in the States of Missouri, Illinois, and Pennsylvania made between the years 1922 and 1936. A table giving the amount, in percentage, of some of the most common causes of blindness as brought out in these States is shown. The table includes, for the interest of comparison, the amount of blindness from the same disease appearing in several thousand students in schools for blind children.

Causes of Blindness	(1) Illinois	(2) Missouri	(3) Pennsylvania	(4) Children
1. Cataract	20.0%	15.0%	22.0%	15.0%
2. Glaucoma	8.	10.4	13.	.2
3. Trachoma	9.	19.7	.54	.5
4. Congenital and Hereditary	2.3	1.4	4.5	50.
5. Ophthalmia Neonatorum ..	3.	2.3	4.	10.
6. Trauma	11.	2.4	14.6	8.
7. Optic Atrophy	15.	13.7	10.	14.

(1) Illinois - 3,517 blind pensioners - Bibliography reference No. 7b

(2) Missouri - 7,126 " eyes " " No. 7c

(3) Pennsylvania 11,852 " " " " No. 7d

(4) Children - 2,702 children " " No. 7a

The most striking thing in this table is the great amount of congenital and hereditary blindness among children.

The next thing of interest in this table is the great amount of blindness caused by trachoma in Missouri, while such cause practically does not exist in Pennsylvania.

Optic Atrophy, interstitial Keratitis, Iritis, and other eye conditions frequently due to syphilis, will be high in those States with a large colored population. More blindness is caused by syphilis than is generally supposed. A conservative estimate would place the blindness due to syphilis at 15% of all blindness.

The subject of causes of blindness is one that has been explored quite extensively by the previously mentioned Committee on Statistics of the Blind. The scheme of classification of causes of blindness as developed by this Committee is an outgrowth of seven years of work. It is not a cumbersome classification and lends itself to machine tabulation. It approaches the subject with the idea of having two diagnoses in each case of blindness, the topographical diagnosis and the etiological diagnosis. The *topographical* diagnosis locates the pathology in the eye, whether the cornea, lens, or retina, etc., and the type of pathology whether inflammatory, degenerative, etc. This is much the easier diagnosis to give. TThe *etiological* diagnosis gives us the cause of the eye pathology, whether syphilitic, some poison which has been taken into the body, some generalized systemic disease,

congenital, etc. This is often most difficult to ascertain and in many cases may be impossible. A study of causes of blindness should not confuse these two diagnoses. The latter is much more important from a preventive standpoint. The late Dr. Thomas B. Holloway said, "The Committee on Statistics of the Blind in its approach to a classification for causes of blindness has included very properly and wise in this study an etiological as well as a topographical classification . . . . .

"The inclusion of an etiological classification serves still another purpose in that it places before the numerous non-medical workers allied with our various societies and organizations a list of possible affections that may produce serious ocular diseases, and they in turn pass on such information to the laity. In other words, it will serve as a method of education . . . . . ."[19]

State Agencies

We have already considered some of the activities of different State agencies through which some of the Federal bureaus function. It will be proper now to go into more detail as regards the efforts of State departments and commissions which may be concerned with the problems of the blind and the prevention of blindness.

State Departments of Education in some cases are responsible for the vocational rehabilitation of the blind. The responsibility for this work will differ in the various States. The natural and artificial illumination[12] of schools should be a matter of concern to all State offices of education. This subject has quite an extensive literature. Sight saving classes[13] are also the concern of educational authorities. Often the need for such classes must be shown by private or public agencies interested in prevention of blindness. The authorities in some States have been particularly awake to the possibility of inculcating in school teachers a knowledge of something about vision defects and their detection. In one area the teachers in public schools were very cooperative in administering simple therapy to the infected eyes of school children as well as serving as centers of distribution of certain needed eye medicines for the country side. This procedure would not be wise everywhere.

Quite a few States have *State Agencies for the Blind* (frequently known as "Commissions for the Blind"). According to the National Society for the Prevention of Blindness,[14] there were twenty-seven States in 1935 with official Commissions for the Blind actively functioning. Of these only nine had the mandatory responsibility of engaging in prevention of blindness work. Anyone who is interested in a particular State, should communicate with the State Health Department for referral to the State agency, if there is one, which is primarily interested in the prevention of blindness, or one might communicate with the National Society for the Prevention of Blindness. The American Foundation for the Blind is the logical source of information concerning State agencies interested in services for the blind.

A few of these State agencies for the blind engage in the work of restoration of sight. Probably 10% of the people eligible for blind assistance can have some vision restored by proper surgical procedure

A larger number than this can probably have their failing vision saved or restored by proper medical and surgical procedures provided they are seen early enough. One should not fail to describe here the very excellent idea initiated by the New York Commission[14a] for the Blind which is planned for the purpose of assuring early and adequate treatment of all cases of ophthalmia neontorum. A revolving fund is maintained by the Commission through which immediate hospitalization can be authorized. The municipality or county responsible for such care can then reimburse the Commission. When it is considered that every case of ophthalmia neonatorum of gonorrheal origin should be hospitalized with special nursing care in addition and that every hour of delay in starting such care is reducing the chances of saving the baby's eyes, then this New York plan should be widely copied.

Three very successful Commissions for the Blind[15] at the present time have *ophthalmologists* to head up their medical activities. Such an individual supervises the medical examination of applicants for blind assistance, aids in the work of restoration of sight, and can be of great help in educational work in the medical profession on matters pertaining to blindness.

In the instructions issued by the Social Security Board (Inst. PA-701) in regard to the procedure for determining blindness, the suggestion is made that reports of medical examinations for determining blindness be reviewed by a *State supervising ophthalmologist*. This review is to serve two purposes (1) Ascertain if the report is adequate and if not, the supervising ophthalmologist to return it to the original examiner for completion, (2) for proper editing so that a common terminology may appear on these forms, thus making them available to the social statisticians.

Any State that may desire to retain the services of one ophthalmologist for making the original examinations of all applicants for blind assistance, can combine the duties of a supervising ophthalmologist and original examiner in the same person.

It would be highly desirable for the eye physician retained by any State agency as medical director or supervising ophthalmologist, to be one who has been certificated by the American Board of Opthalmology[15a] or who has had the training in ophthalmology advised by the Board.

The use of a full time ophthalmologist has never been tried by State agencies for the blind. Some State health departments have found it necessary to employ such for the purpose of helping in the control and treatment of epidemic eye disease.

If State welfare departments follow through into the field of prevention of blindness and restoration of sight either directly or in cooperation with some other State agency, then the employment of full time ophthalmologists may be seriously considered in some States.

Some of the responsibilities of such an individual have already been touched on in connection with the larger functions of State agencies for the blind. In addition to these very worth while duties there is the field of aid to the near blind child and adult in which a full time ophthalmologist

could render such great service. Service here might take three lines, (a) through proper educational measures to render the more intelligent citizens and organizations of citizens conscious of the potentially blind individuals and to be on the look out for such (b) contacting such potential cases early (c) getting such cases under proper care.

The other phases of educational work in this field, relating to prevention of eye accidents in the home, on the playground, in factories, and in mines can often be well done by *public health nurses* or *medical social workers* with special training in blind prevention work. A useful sphere for these two professions yet to be developed which should be of great aid in the prevention of blindness, is the utilization of their services as contact agents for the official State agencies interested in the conservation of vision. To make this idea successful, those physicians doing eye work must be sold the idea of reporting certain types of cases to the State agency for the purpose of having such patients informed through letters, pamphlets or even personal contact if indicated by the official agency as to the recognized procedures in such conditions, the probable length of time to effect a cure and how close the medical supervision should be.

The *State schools for the young blind* are usually separate from any other official efforts in the field of blindness. These schools represent the earliest work with the blind in most States. As has been shown by one investigator,[16] not all State schools for the blind are as careful as they might be in limiting admission to those children who are blind. Not all schools have adopted the very commendable practice of requiring a careful eye examination by an ophthalmologist before the entry of the child. Some schools for the blind will permit children with active eye pathology to enter and will then undertake the treatment of such pathology; however, most schools insist that all eye pathology be quiescent, especially if of communicable nature.

The earliest work in prevention of blindness was that done by the *State Health Departments*. In the majority of States this is still true. It may be worth while to go into some of the details of the measures employed by State health departments in prevention of blindness to see how they actually work and where they might be improved.

Again citing the report by the National Society for the Prevention of Blindness for the International Association and entitled "Prevention of Blindness in the United States of America,"[14] we find tabulations of the respective States showing whether each State does or does not have laws or regulations covering the following points which are concerned with the prevention of blindness and for which State and local health departments are responsible:

1. Requiring vaccination for control of smallpox.

2. Cases of ophthalmia neonatorum reportable to State and local health officers.

3. Prophylactic in eyes of newborn required by law or regulation.

4. Prophylactic distributed by health departments.

5. Health officers legally empowered to provide medical care in cases of ophthalmia neonatorum.

6. Compulsory examination and quarantine of persons suspected of having a venereal disease.

7. Cases of venereal diseases reportable by serial number or name.

8. Medical inspection of school children.

There are some interesting historical facts connected with the requirement of vaccination for the control of smallpox as a prevention of blindness measure. It may not be known to all that many years ago smallpox was the greatest single cause of blindness in the world. Vaccination has changed the picture entirely. However, one still occasionally sees eyes that have been lost as a result of smallpox even in very mild cases. Revaccination is possibly not emphasized enough.

According to the report mentioned above, nearly all States require reporting of cases of ophthalmia neonatorum either to the State or local health officer. This reporting is not considered at all good. In any case the end result is not reported. If one sees that 100 cases were reported to the State health department in 1935, the question immediately arises, how many of these infants became blind?

The use of a prophylactic in the eyes of the new born as a means of preventing [5a] ophthalmia in the infant has become widespread. Today, one might say that education on this point is probably more effective than laws and regulations. Many States in devising their official birth certificates have placed questions on their certificates which serve as reminders to the physician and midwife that the use of a prophylactic is required. One State puts the question on the birth certificate this way, "Were precautions taken against ophthalmia neonatorum?" In this State the physician cannot legally collect his bill for the delivery, if the question is not answered. Another State birth certificate asks "Was 1% Silver Nitrate used to prevent infant blindness?" Some States follow up on these questions. If the question on the birth certificate has not been answered or is answered in the negative a letter or inspector from the State health department will go out to contact the physician and midwife to find out why requirements have not been followed. One State health officer states that a willful omission or disregard of this point results in the facts of the case being placed before the prosecuting attorney for action.

The National Society's report indicates that in 1935 there were 38 State health departments distributing to physicians or midwives or both a free prophylactic for use in the eyes of the newborn. This prophylactic is silver nitrate, usually 1%, in one State a 1½% [17] solution. It is fairly well known that a silver nitrate solution will deteriorate with age and a silver oxide will form which is very irritating and would of itself cause some inflammation in the infant's eyes.

A very ingenious method has been devised for preventing this deterioration in the silver nitrate distributed by the State health department. It consists of placing the solution in small ampules made of beeswax [18] lined with paraffin. In such containers the silver solution remains stable for many months.

While health officers are empowered and even required to provide medical care for cases of ophthalmia neonatorum in about 20 States, eleven of these State health officers, when questioned, stated that this provision usually referred to local health offices and that they did not know of any instances where it had been utilized in the past year. The value of this provision is questionable. Action in such a disease should be somewhat on the order of action of a fire department when an alarm comes in. The plan of the New York State Blind Commission, already cited, would seem more logical.

It is of interest to note that whereas ophthalmia neonatorum was once the greatest cause of blindness reported among children entering the Schools for the Blind for the first time, averaging 28%, it has today declined to such an extent that it is reported as causing approximately 7% of the blindness among such entering pupils. This report on ophthalmia neonatorum was made in 1934 by the National Society for Prevention of Blindness and the American Foundation for the Blind. The latest figures on this are given in a table in another part of this paper and they show that 10% of the blindness among present pupils in these schools is caused by ophthalmia neonatorum.

The compulsory examination and quarantine of persons suspected of having a venereal disease is a police power which is exercised almost entirely by local health officers. One State health officer reported that in two large cities of his State this power permitted a weekly examination of prostitutes. He further stated that when they were found infected there was only one place to quarantine while they were undergoing treatment and that was in the county jail.

Great efforts are made by all health officers to secure reporting of venereal cases by practicing physicians. This reporting may be by name or by number. In most cases the reporting is to the local health officer and is usually by number. If any case becomes delinquent in treatment he is usually reported by name to the State health officer. State health departments that are emphasizing venereal disease control make provision for contacting these individuals who have become delinquent as regards medical treatment.

It might be well to cite here the efforts of one very progressive State health department in this matter of venereal disease control from the standpoint of reporting and delinquency. This State has a population of 3,000,000. In 1935 there were 2073 cases of venereal disease recorded. There were 113 delinquent patients reported and of these 71 were placed back on treatment, 19 by being committed to State institutions.

Prevention of blindness has indirectly and in many cases unconsciously been the purpose running through many of the activities of

health departments. A more definite emphasis on the subject by health departments, an attempt to correlate and stimulate the many ramifying lines which a well-rounded program of sight conservation must take, may be in order. It should be of interest that a committee is now being formed consisting of representatives of national, public and private health and welfare agencies which will seek to explore the possibilities of sight conservation and prevention of blindness as a cooperative endeavor between State agencies for the blind and State health departments.

Summary

Some Objectives in a State Plan for Assistance to Blind Individuals:

1. To establish a high type of medical examination of applicant for blind assistance and where possible and certainly where indicated by the medical examinations findings to follow up on families of applicants for blind assistance in order to detect incipient cases of blindness.

2. To utilize all facilities available for the restoration of vision in cases where this is possible.

These two are probably the major objectives from a *medical* standpoint in the assistance program for aid to needy blind individuals.

3. To cooperate with all state wide agencies and organizations that are working to prevent blindness or to rehabilitate blind individuals.

In considering the part that the Welfare Department plays in the whole state-wide program for the blind, it would seem to us that a very valuable first step would be to discover what state-wide organizations and agencies have a stake in a program for the blind; the extent of their progress; and in relation to these other programs to define our own objectives. This might be done by a preliminary conference with these various groups so that the assistance program does not duplicate or overlap the existing programs.

The procedures which we believe are sound in developing the assistance program for the blind are:

The Employment of a Supervising Ophthalmologist.

A supervising ophthalmologist should be on the staff of the State Board of Public Welfare. His duty will be to examine all eye examination reports made by the local ophthalmologist for their completeness, their quality, and their uniformity in order to ascertain if a proper examination has been made. He would also interpret to the Board and to local units concerning the necessity of reexamination in some cases and the relationship of the visual acuity as reported for some individuals to the definition of economic blindness adopted by the State. These reports of eye examinations yield material on the causal factors of blindness. The only way that an intelligent approach can be made to the prevention of blindness is to ascertain the cause of blindness in each

individual applicant where such is possible. Out of this material the State will be able to plan a sound program for preventing much blindness.

The Medical Examinations of Applicants for Assistance.

A list of ophthalmologists who have been designated by some group qualified to make such designations, as the State Medical Association, should be furnished to each local welfare office. Each local office should also be supplied with examination blanks, which conform to the information on PA-701. If there are several ophthalmologists in the district the applicant should be given the opportunity of choosing. If there is no ophthalmologist arrangements should be made to defray the traveling expenses, either of the ophthalmologist to the applicant, if there are several to be examined in one territory, or the applicant to the physician.

Restoration of Vision.

Where the medical findings reveal that there is a reasonable chance of restoring sight, every endeavor should be made to persuade the applicant to follow this advice.

Provisions for treatment or suggested procedure either to prevent blindness or restore vision in needy people should be made available as rapidly as possible. Such facilities are present in nearly all areas.

Hospitals and clinics for rendering such service should be designated by the State Board.

The ophthalmologists who have been designated by the State Board to examine applicants for blind assistance may also be willing to cooperate in rendering necessary medical or surgical care. Some agreement should probably be drawn up between the State Board and ophthalmologists with this end in mind.

Medical Social Worker.

If the number of applicants for blind assistance is large in any State some consideration should be given to the advisability of employing a medical social worker in the Division of Public Assistance who has special knowledge of eye conditions; such a person would work with the State department and would be responsible for pursuing follow-up on ophthalmological recommendations, restoration of vision, etc.

Organizations and Agencies in States which have Programs concerned with Prevention of Blindness and the Education or Retraining of Blind Individuals.
State Department of Health.

Many of the functions of this department are concerned with the prevention of blindness. Some of the methods are:

(a) The use of prenatal clinics. These should be available throughout the State. These have special bearing on preventing syphilitic blindness.

(b) Urging the use of drops in the eyes of new born babies to prevent infant blindness.

(c) Increasing the facilities for treatment of syphilis.

State Department of Education.

One of the functions of this department is to encourage and financially assist the development of sight saving classes in the public schools. Rural areas cannot support such classes so there may be problems of transportation for children who need to attend such classes.

State School for the Blind.

This is mainly for blind children; however, age at entry may be 21 years or more. Normal mentality is usually insisted upon. Some State schools for the blind have a sight saving department for those children who have very defective sight and live in areas that cannot support sight saving classes.

State Rehabilitation Service.

This may be a function of the Department of Education or a separate board. Rehabilitation of the blind may be the function of a State Commission for the Blind. Not all blind adults will be suitable for rehabilitation efforts. Public assistance for the blind may often be of aid in gaining vocational rehabilitation for the blind individual. There should be a free flow of information between local welfare workers and those interested in rehabilitation of the blind and the physically handicapped in general.

Private Organizations.

There may be in the State, branches of one of the National organizations which have a program to prevent blindness, to retrain and employ blind individuals. They may also have plans for collecting a census of blind individuals in the State.

Three good references for welfare workers in connection with blind assistance:

1. WHAT TO DO FOR BLIND CHILDREN
   Park Lewis, M.D. 25¢
   American Medical Association
   535 North Dearborn Street
   Chicago, Illinois

2. EMPLOYMENT OF THE BLIND IN WORK FOR WHICH SIGHT WAS FORMERLY CONSIDERED ESSENTIAL
   E. A. Baker 25¢
   J. F. Clunk
   American Foundation for the Blind
   New York City

3. THE CAUSES AND PREVENTION OF BLINDNESS
   Arthur J. Bedell, M.D. 15¢
   Publication D 75
   National Society for Prevention of Blindness
   50 West 50th Street
   New York City

Conclusions

One can say that the subject of blindness and blind prevention has wide ramifications. The emphasis being placed in the different States on the various phases of work with the blind and blind prevention efforts differs in as many ways as there are States. What is developed in the future will depend somewhat on how official and private agencies have been developed in the various States in the past.

Prevention of blindness should be stimulated whether such is developed in State commissions for the blind separate from State welfare boards or whether it develops in the blind assistance division of a State Welfare agency or in State health departments, there are certain fundamentals on which such prevention work must rest:

1. An adequate medical determination of blindness.

2. Contacting the potentially blind individual early.

3. Being able to care for these potentially blind whether adult or child in an adequate manner.

4. Proper prenatal care.

5. A proper liaison between official agencies for the blind and other agencies as health departments, industrial commissions, labor commissioners, educational departments, etc.

1a. American Foundation for the Blind
15 West 16th Street, New York City, New York

1b. National Society for the Prevention of Blindness
50 West 50th Street, New York City, New York

1c. American Association of Workers for the Blind (A.A.W.B.)
Secretary, Mr. Stetson K. Ryan
State Office Building
Hartford, Connecticut

1d. American Association of Instructors of the Blind (A.A.I.B.)
Mr. B. S. Joice, Secretary
Western Pennsylvania School for the Blind
Pittsburgh, Pennsylvania

2. American Standards Association
29 West 39th Street, New York City, New York

3. National Safety Council
20 North Wacker Drive, Chicago, Illinois

4. U. S. Children's Bureau, Washington, D. C.
Pub. No. 4 Prenatal Care
8 Infant Care
153 Standards of Prenatal Care
172 Recreation for Blind Children

4a. Prevention of Blindness in Newborn Babies
National Society for Prevention of Blindness
Pub. No. D 63

4b. Syphilis in Pregnancy - Reprint from the Journal of the American Medical Association
National Society for Prevention of Blindness
Pub. No. D 87

5. U. S. Bureau of Labor Statistics, Washington, D. C.
Pub. No. 582. Occupation Hazards and Diagnostic Signs
Pub. No. 253. Women in the Lead Industries
Pub. No. 556. Code of Lighting: Factories, Mills, etc.

5a. Bureau of Labor Standards, U. S. Department of Labor
Bulletin No. 6. Help in preparing lectures for Factory Inspectors.

6. U. S. Public Health Service, Washington, D. C.
There are several publications from the U. S. Public Health Service which deal from time to time with problems connected with blindness and preventing blindness. Some of these periodicals are issued regularly and some at irregular intervals.

1. Public Health Reports - weekly
2. Public Health Bulletins - Irregular intervals
3. Bulletins of National Institute of Health - Irregular intervals
4. Venereal Disease Information - Issued monthly

7a. The Causes of Blindness in Children
A Study of Causes of Blindness in 2,702 Children
Conrad Berens, C. Edith Kerby, Evelyn C. McKay
Journal American Medical Association, Dec. 14, 1935.

7b. The Blind Pensioners of Illinois
William H. Wilder, Audrey M. Hayden
American Journal of Ophthalmology, Vol. 14, No. 1, Jan. 1931.

7c. Blindness in Missouri
Harvey D. Lamb
Journal American Medical Association
October 14, 1922.

7d. Causes of Blindness in Pennsylvania
Alfred Cowan, S. Mervyn Sinclair
Journal American Medical Association, Sept. 5, 1936.

7e. Who are the Blind in New Jersey
Publication 30 - Division of Statistics and Research
State Department of Institutions and Agencies - Jan. 1936.

7f. Public Health Report No. 1429: Trachoma, Some facts about the disease and some suggestions for Trachoma sufferers.
Trachoma in the United States - National Society for Prevention of Blindness - Publication 144.

8. U. S. Bureau of Indian Affairs
Publications by U. S. Public Health Service
Public Health Report, Nov. 29, 1929 - Trachoma Work of the United States Indian Service in the Southwest.
Public Health Reprint No. 1277 - Health of the American Indian
Public Health Bulletin No. 223 - Observations on Indian Health Problems and Facilities - 1936.

9. U. S. Bureau of Education, Washington, D. C.

9a. American Foundation for the Blind, publications on Vocational Rehabilitation of the Blind. A list of 142 professions and trades in which blind people have engaged is available from the American Foundation for the Blind.

10. The Blind and Deaf-mutes in the United States 1930
Fifteenth Census of the U. S. Bureau of the Census

11. U. S. Employees Compensation Commission
Washington, D. C.

11a. Appraisal of Loss of Visual Efficiency - Standard Method
Approved by the House of Delegates of the American Medical
Association. May 26, 1925.

11b. Catalogue of Publications in Braille - Grade 1½
Service for the Blind, Library of Congress

11c. Visual Efficiency of Various Degrees of Subnormal Visual Acuity.
Its effect on Earning Ability. Albert C. Snell
Journal American Medical Association - October 31, 1925.

11d. The Missouri Blind Pension Law from the Ophthalmologists
Standpoint.
Dr. Harvey D. Lamb
Missouri State Medical Journal, August, 1922

12 Illuminating Intensities for Reading, M. A. Tinker
Journal Industrial Hygiene - November, 1935

Standards of School Lighting
Pub. D 77
National Society for Prevention of Blindness

Lighting the Rural School
Winifred Hathaway
Pub. D 82
National Society for Prevention of Blindness

13. History and Development of Sight Saving Classes in the United States.
W. Hathaway
Sight Saving Review 3: 20 - 37 - March, 1933.

14. Prevention of Blindness in the United States of America
Report to the International Association for the Prevention of
Blindness, 1935 - Prepared in offices of the National Society
for the Prevention of Blindness.

14a. Responsibility of New York State in Preventing Blindness
Grace Harper - Sight Saving Review
1:43 - September, 1931.

15. Pennsylvania, Missouri, and Ohio.

15a. American Board of Ophthalmology, Dr. John Green, Sec., Beaumont
Building, St. Louis, Missouri.

16. An Ophthalmological Survey of Illinois State School for the Blind
A. L. Adams, R. C. Gamble, S. R. Gifford and H. S. Gradle
American Journal of Ophthalmology - July, 1984.

17. Investigation of Silver Nitrate Capsules
Journal American Medical Association - September 5, 1931.

18. Wax Paraffin Ampules for Solution used in Prevention of
Ophthalmia Neonatorum - W. E. Burney
American Journal of Public Health - 25; July, 1935.

19. The New Statistics on Causes of Blindness among Children
Dr. Thomas B. Holloway
Publication 164 - 1934
National Society for the Prevention of Blindness